

## CLAIMS

1. A transmission (8) having a transmission case (26), which comprises an area in which the gear wheels (66, 68) rotate, and a heat exchanger (30), which absorbs heat generated in the transmission (8) and transferred to a transmission lubricant and conveys said heat to a coolant in order to transport away the heat from the transmission (8), wherein a recess (56) through which transmission lubricant flows and in which the heat exchanger (30) is arranged is provided in the transmission case (26) outside of the area in which the gear wheels (66, 68) rotate,.

2. The transmission (8) of claim 1, wherein the heat exchanger (30) is a separate component that can be inserted in the recess (56) in the transmission case (26).

3. The transmission (8) of claim 1 or 2, wherein the transmission lubricant flows through the recess (56) in the transmission case (26) at the intake side of an oil pump (62) transporting the transmission lubricant.

4. The transmission (8) of one of the claims 1 to 3, wherein a bypass valve (70) that enables the heat exchanger (30) to be bypassed when the temperatures of the transmission lubricant drop below a specified limit is provided at the intake side of the oil pump (62) transporting the transmission lubricant.

5. The transmission (8) of one of the claims 1 to 4, wherein the heat exchanger (30) in the recess (56) is accessible from outside of the case (26) for maintenance and assembly purposes.

6. The transmission (8) of one of the claims 1 to 5, wherein the heat exchanger (30) is configured as a tubular heat exchanger.

7. The transmission (8) of one of the claims 1 to 6, wherein the coolant is connected to a cooling unit (38) outside the transmission (8) for the purpose of transporting away the heat from the transmission (8).

8. The transmission (8) of one of the claims 1 to 6, wherein the coolant used to transport away the heat from the transmission (8) is a coolant in the

cooling system of an internal combustion engine (4) that drives the transmission (8).

9. The transmission (8) of one of the claims 1 to 8, wherein the coolant is a water-based fluid and the transmission lubricant is an oil-based fluid.